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Major John Eatton Le Conte, 1784-1860.

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SAMUEL HUBBARD SCUDDER.

ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

VOL. XXII. JULY, 1911. No. 7.

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Samuel Hubbard Scudder.

(Portrait, Plate VIII)

This distinguished American entomologist died May 17th, 1911, aged seventy-four years. He was born in Boston, Mass., April 13th, 1837, and lived in Cambridge, at 156 Brattle Street. He was educated at Williams College and received honorary degrees from Harvard and the University of Pittsburgh. From 1864 to 1870 he was Custodian of the Boston Society of Natural History, and from 1879 to 1882 Assistant Librarian at Harvard University. From 1886 to 1892 he was Paleontologist to the U. S. Geological Survey; he served as General Secretary of the American Association for the Advancement of Science in 1875, and was a Vice President of the Association in 1894.

He was the greatest Orthopterist America has produced. His first paper on recent Orthoptera, in 1861, in the Proceedings of the Boston Society of Natural History, volume VIII, was "On the genus *Raphidophora*, Serville," etc.; his last on recent Orthoptera was published in April, 1902, in conjunction with Professor T. D. A. Cockerell, entitled "A first list

of the Orthoptera of New Mexico" in Proceedings of the Davenport Academy of Sciences, volume IX.

The total number of his writings on North American Orthoptera is 131, and his work was chiefly upon the North American forms of the order, but over one hundred exotic species also were described by him.

The most noteworthy of these North American papers were the following:

Entomological Notes, which ran in the Proceedings of the Boston Society of Natural History, volumes XI to XIX, (1868-78) and treated of Lepidoptera as well as Orthoptera.

A Century of Orthoptera, Decades I-X, in the same Proceedings, volumes XII-XX, (1868-79). Some of these appeared also as portions of the *Entomological Notes* series.

Catalogue of the Orthoptera of North America described previous to 1867. Washington, 1868.

Various papers based on the collections made by Packard, Hayden, Wheeler and others in the government survey and expedition work of the '60's and '70's.

Guide to the Genera and Classification of the North American Orthoptera found North of Mexico. Cambridge, 1897.

Revision of the Orthopteran Group Melanopli, Wash., 1897.

Catalogue of the Described Orthoptera of the United States and Canada. Davenport, 1900.

Alphabetical Index to North American Orthoptera described in the eighteenth and nineteenth centuries. Boston, 1901.

His work on the Orthoptera may be summed up by saying that it was the basis on which the present classification of North American Orthoptera was developed.

J. A. G. R.

Dr. Scudder began writing on the diurnal lepidoptera about fifty years ago, and contributed very largely to the literature of the subject. His papers are to be found in most of the

entomological journals of the country, and also in the most of the publications of the learned societies of New England. He described a goodly number of our butterflies, and the students of the future will often think of him in connection with such interesting species as *Argynnis montinus, Melitaea harrisii, Anaea andria, Colias interior, Pamphila metea, mystic, manataaqua, panoquin, hianna, Amblyscirtes samoset, Pyrgus tessellata, Thanaos martialis,* etc. He described about thirty species of butterflies found in the United States. His writings cover practically all phases of the subject and show marked originality; they number about one hundred papers and some valuable books and memoirs, the work entailing the greatest amount of labor, and research being his *Butterflies of the Eastern United States and Canada, with special reference to New England,* in three volumes, Cambridge, 1889, (published by the author). This is a mine of information, from all sources, and will be invaluable for many years to come. Special attention was given to the distribution, habits, and life-histories and careful descriptions of the various stages of life. An important feature is the mention of the "desiderata" or the gaps in our knowledge of the species in any particular.

Other works are as follows: *The Life of a Butterfly* (Anosia plexippus) (1893); *Butterflies: Their Structure, Changes and Life Histories, with Special Reference to American Forms,* (1881); *A Brief Guide to the Commoner Butterflies of the United States,* (1893); *Fossil Butterflies; Historical Sketch of the Generic Names Proposed for Butterflies; Frail Children of the Air* (1895); *Every-Day Butterflies, A Group of Biographies* (1899); *Entomological Correspondence of Thaddeus William Harris.*

He was for many years the editor of *Psyche,* the organ of the Cambridge Entomological Club, and contributed largely to its pages, and was Editor of *Science,* 1883-1885. Another invaluable work and one that entailed an immense amount of

labor was the compilation of *The Nomenclator Zoologicus or Universal Index to the Genera in Zoology* (1882). In 1890 appeared *The Tertiary Insects of North America*, a work of 663 pages and 28 plates. Mr. Scudder was the foremost student of fossil insects in America, and in addition to this large work wrote other important papers in this branch of study, such as the section on fossil Myriopods, Arachnoids and Insects in Zittel's great *Handbuch der Paleontologie* (1885, English translation 1900). He contributed largely to our knowledge of the fauna of the New England States, and particularly of the White Mountains of New Hampshire. His studies in classification were largely accepted the world over. In conjunction with Edward Burgess he was a pioneer in the study of the genitalia of the butterflies; on antigeny or sexual dimorphism, on androconia and other parts of the minute anatomy, he did important work. In a brief notice it is impossible to even mention all his activities.

He was perhaps the greatest scholar and man of the greatest literary ability among the entomologists that America has produced. His biography of John Lawrence LeConte well illustrates this ability and his painstaking care in research. He was a man of culture, refinement and gentlemanly instincts, and in his home was hospitable and kindly to all that came to seek knowledge and consult the wealth of material in his collection. He added great lustre to the study of entomology in America, and his high abilities were recognized with honorary or corresponding membership by leading scientific societies of the Old World.—H. S.

THE PUGET SOUND MARINE STATION established by the University of Washington at Friday Harbor, Washington, in the summer of 1904, and since 1908 placed upon a co-operative basis, (practically all of the educational institutions of the Northwest participating in the organization), will this year offer courses in Botany and Zoology, from June 26 to August 3, opportunities for research, etc. For information apply to Professor Trevor Kincaid, University of Washington, Seattle, Wash.

Thecla clytie, leda and ines (Lepid.).

By J. R. Haskin, Los Angeles, Cal., and F. Grinnell, Jr.

In May and June, 1908, Mr. Grinnell took twenty specimens of a small *Thecla* near Dos Palmos Spring, in the Santa Rosa Mountains, southern California, at an elevation of 3500 feet. In July, 1910, Mr. Haskin took seven specimens of the same species at Cananea, Mexico, thirty miles south of the American border, at 5000 feet elevation. In June, 1908, Mr. V. L. Clemence collected a number in the Chiricahua Mountains, of southern Arizona. In June and July, 1910, Messrs. Coolidge and Clemence collected others in the Huachuca Mountains, of southern Arizona, at about 5000 feet elevation.

Mr. W. G. Wright, in his Butterflies of the West Coast, figures the same species as *Thecla ines* from specimens taken in the Santa Rita Mountains, of Arizona and southern California, in October, 1892-3. Dr. Holland figures the same as *Thecla clytie,* Plate XXX, fig. 6, ♀. This we presume is from the Edwards unique type specimen. Again in *Thecla ines,* Plate XXIX, fig. 35, ♂, we find the same species. Mr. W. S. Wright, in the Journal of the New York Entomological Society, XVI, Sept., 1908, P. 162, mentions *Thecla ines* as taken by Mr. G. H. Field in July, at Jacumba, San Diego County, California. He supposes there are two broods, one in July and the other in October.

An attempt by us to name correctly our specimens, together with others taken by Mr. Clemence, has led us to the conclusion that *clytie, leda* and *ines* are one and the same butterfly. We first made use of Holland's Butterfly Book and found that the *ines* description and figures most nearly approached our specimens. All of ours, however, are very distinctly marked with a line clear across both wings in which bright red is predominant. The details of this line are given in the description which follows. In a general way we can describe it by saying that it is like the extra-discal line on *Thecla melinus* with which all collectors are familiar. In fact, our specimens on the under side look very much like diminutive, pale-gray *melinus.*

COMPARISON OF DESCRIPTIONS OF T. LEDA, T. CLYTIE, AND T. INES WITH OUR SPECIMENS.

T. leda.	T. clytie.	T. ines.	Specimens cited.
Described from 2 ♂ taken near Prescott, Ariz. Expanse, .85 inch.	Described from 1 ♀ taken at San Antonio, Texas. Expanse, .8 inch.	Described from a large number of examples taken in Southern Arizona. October. ♂.—Expanse, .8 to .85 inch. ♀.—Expanse, about 1 inch.	Specimens taken at Cananea, Mexico; Chiricahua Mts. and Huachuca Mts., Southern Arizona; and Santa Rosa Mts., Southern California, in June and July. Expanse .75–.85 inch.
Upper side pale black. [Pale black is good!]	Upper side of primaries is blackish.	♂.—The apical area of primaries . . . is brown-black. ♀. Rather more than half of primaries is black.	Black in fresh specimens; worn specimens rusty black.
Along inner margin of primaries and base, and inner half of secondaries, violet-blue.	On the inner margins (of primary) up to cell . . . . the color is light blue, forming a pretty regular arc of a circle, terminating at three-fourths the distance from base to inner angle. Secondaries wholly light blue, color of *Lycaena pseudargiolus*, pale next outer angle, and along inner margin.	♂.—Upper side wholly lavender blue, except the apical area of primaries. ♀.—The blue being restricted to posterior part and not reaching inner angle; the blue is also a shade darker than in the male; secondaries blue, except on the costal margin, which is black.	If a coin or round disk a trifle over .5 inch in diameter be placed over the spread ♀ butterfly so that the head barely projects from the edge, the visible portion of the wings is black and the concealed portion light blue. The outer angle of secondaries is in the black area. The ♂ is like the description of *leda* ♂. The ♀ is like *clytie* ♀. If whoever has the original specimens of *ines* will examine them carefully we suspect he will find that Mr. Edwards has mixed up his ♂ and ♀. In a fresh ♂ specimen the *Thecla* stigma on cell of primary can readily be seen. This is not mentioned in *ines*.

T. leda.	*T. clytie.*	*T. ines.*	*Specimens cited.*
♂.—On primaries a dark, rough stigma; secondaries have two tails, the anterior one short, the other long, both black with white tips; a dark patch at anal angle, and two in the next adjoining interspaces on the margin.	♀.—Hind margin secondaries edged with a black line, preceded by a white one, and on that towards outer angle is a narrow fulvous edging, some small patches of fuscous also near the inner angle along same line; in lower median interspace is a marginal black, rounded spot, and at inner angle an orange spot; furnished with two tails, the outer one short, white; the inner one very long, thread-like, black, partly fringed on one side by white, white at tip; fringes of primaries fuscous, of secondaries white, not pure but a little gray, and at the ends of middle nervules darker than elsewhere.	Secondaries have a rounded, black marginal spot between the tails and an indistinct spot next anal angle; the posterior tail is long, and both are slender, black, tipped white, fringes sordid white next the margin, brown at ends.	Each detail of *leda* tallies with our ♂. Each detail of *ines* tallies with our ♀. Each detail of the minutely described *clytie* can be seen on our ♀ in bright day light and with a low-power glass, except that the orange spot at inner angle is represented by a distinct trace only of orange, and the minute anterior tail is not wholly white.
Under side gray-brown.	Under side gray-white, pale on disks and darkest on hind margins.	Under side of both wings cinereous, lightest colored over extradiscal part of secondaries. Under a glass the scales are seen to be alternately gray and brown.	Under side.—The average specimen is of an almost uniform light gray showing a tint of brownish when held in certain lights. Our most strongly marked ♂ follows *ines* exactly.

T. leda.	*T. clytie.*	*T. ines.*	*Specimens cited.*
Both wings edged by a brown line, next which the scales are whiter than elsewhere, giving the appearance of a second line, white.	Both wings are edged with a fine red line.	No detail given.	Ours follow *leda* exactly. The line in *clytie* is red and will be mentioned again in our conclusion.
Primaries have an obscure sub-marginal series of brown lunules.	Primaries also have a sub-marginal row of pale fuscous, sub-lunate spots.	Primaries have a submarginal line of pale brown lunules.	The reader may choose any of the preceding descriptions, and consider it as applying to our specimens.
An extra discal, somewhat macular, band covering whole wing, brown, with no scales, and edged without by white.	Crossed a little beyond the middle by a common series of elongated red spots edged with white; this series on primaries stops at lower branch of median.	An extra-discal, nearly straight black stripe, edged on the outer side by white.	Crossed a little beyond the middle by an irregular red line, edged outwardly by white from which it is separated by a fine black line. This line thins out and disappears at lower branch of median.
At the end of cell a brown bar with red scales and white on either side.	Discal spot of primaries a long red bar.	A straight black bar on arc.	A dark bar at end of cell, with a tendency to red on some specimens.
Secondaries have a clouded, marginal border, indistinct brown lunules, running through a whitish ground.	The marginal area of secondaries is clouded with light and dark, not forming distinct spots.	On secondaries, beyond disk, the gray scales prevail, and this area is clouded, light and dark.	On secondaries a very indistinct line of dark, marginal crescents bordered by gray of a lighter shade than the ground color.
A black anal patch, over which is a red edging, red also on the inner margin just above;	Between the tails a black triangle upon a large orange spot, and at the angle a black spot	A brown patch at inner angle and a faint spot between the tails.	A black anal spot, over which is a red edging; red on the inner margin also, in some speci-

T. leda.	*T. clytie.*	*T. ines.*	*Specimens cited.*
a rounded red spot, with black at the margin, between the two lower branches of median.	overtopped by orange; the under side of the tail is also red next the margin.		mens; between the tails a large orange spot with a small black spot contained in it, not centered but close to outer edge.
Across the disk a macular band from margin to margin, bent at a double angle, or W, below median, brown much covered with red, and edged outside by white.	Crossed a little beyond the middle by a common series of elongated red spots, edged with white . . . on inner margin of secondaries takes the form of W.	Secondaries have an irregular black line across disk, forming a W near inner margin. ♀—In the mesial band of secondaries ferruginous scales appear.	The discal and limbal areas are separated by an irregular line from margin to margin, bent at a double angle or W below median. This line is bright red bordered outwardly with white from which it is separated by a fine dark line.
An obscure streak at end of cell and a brown and red bar above cell, half way between band and base.	On secondaries there is a small red spot on costal margin near base, and two smaller ones in line with it on middle of basal area.	On the arc a black streak.	An obscure streak at end of cell; in some specimens a faint trace of reddish appears; a small elongated red spot, bordered inwardly with white, on costal margin near base; and two similar but smaller and less distinct ones in line with it on middle of basal area.

The figure of *clytie* attracted our attention but the description was meagre and unsatisfactory. *Laeta's* description mentioned red on the under side, but the figure showed a different species. Edwards' description of *laeta* in Butterflies, 1, 141, Plate 47, proved that we did not have *laeta*.

We next turned to Papilio, Vol. 2, pages 23-4-5, where we found W. H. Edwards' original descriptions of *Thecla leda, clytie* and *ines, clytie* being reprinted from Field and Forest, Vol 3, page 232, 1877. A very close reading of these descriptions showed, that while our specimens most nearly resembled *leda*, still there was really less difference outlined in the three descriptions than could be found in a good series of *T. melinus* from one locality. They seem to be three different word pictures of the same object. In *clytie* Mr. Edwards polished off his description with great detail, and evidently made considerable use of a low power microscope.

Leda was well finished but not quite so much attention was paid to detail. *Ines* was treated quite crudely, as compared with the others. Again the various details were not described in the same order in any two of the three descriptions and this, with the use of different words for the same things, gives the reader a first impression of a very different species. We have rearranged the order of the details, omitting nothing in any of them, however, and then compared them with our specimens. The results are given above and we believe will be of interest to other students.

Concerning the body, legs, palpi, etc., these insects are so minute that a magnifying glass is required to follow the descriptions. We find that most of the specimens, having been dried and relaxed for spreading, have suffered a loss of freshness. We feel that minute descriptions of one or two specimens under these conditions are of no value, and we therefore omit them. As nearly as we can gather from our best specimens the description should conclude as follows:

Body above covered with blue scales and hair; abdomen above white with a slight amount of light orange. Beneath white with a yellowish tinge on abdomen. Legs generally

white, palpi white, antennae annulated black and white, club black tipped with ferruginous.

Conclusion—A careful comparison of these descriptions will show that the specimens described had only such minute differences as could be expected from different sections and different seasons. In fact there is as much or more difference between our description and the others as there is between them. If they are all legitimate we would be justified in giving still another name to our set of specimens.

We might conclude to call this butterfly *leda,* the description of which most nearly approaches our specimens, with a lowland form *clytie* and a fall form *ines.* This, to our minds would be as justifiable as Edwards' fine differentiation of the eastern *pseudargiolus* forms. *Clytie* has apparently a distinct orange spot on anal angle, while our specimens show only a minute orange patch in the best. In *clytie* the thread-like line along under edge of wings is red, while in ours it is brown. And finally *clytie* has an almost microscopic wholly white anterior tail as against our black tipped with white. *Ines,* on the other hand, is not so fully colored as our specimens. The red of the extra-discal line on under side disappears except for some ferruginous scales on certain specimens. Other minute color details also seem to be subdued as might easily occur in fall specimens. These differences, however, are really so minute that we consider even form names a superfluity.

Thecla clytie was described in 1877. *Leda* and *ines* were described in 1882. Mr. Aaron has stated that *clytie* might possibly be *adria* Hewitson. Until this is demonstrated by some one, we believe that the synonymy of this butterfly is:

Thecla clytie Edwards.
Syn. *leda* Edwards.
Syn. *ines* Edwards.

ERISTALIS OESTRACEUS L. a North American insect.—Mr. E. E. Austen finds that *E.* (*Syrphus*) *oestriformis* Walker, described from the Albany River, Ontario, is a synonym of Linnaeus' *oestraceus.* (Ent. Mo. Mag., March, 1911, pp. 63-64).

A new Variety of Megathymus yuccae (Lepid.).

By HENRY SKINNER, M.D., Philadelphia, Pa.

Megathymus navajo n. var.

The specimens appear to be all males. They are black in color, while all the specimens of *yuccae* I have seen are chestnut brown. They range in size 40, 45, 47 and 50 mm. in expanse respectively. The specimens of *yuccae* in our collection range in size from 62 to 68 mm. This variety is similar to *coloradensis* Riley, but is quite different in color. The specimens were sent to me by Mr. W. C. Wood of New York, along with a lot of specimens of *Megathymus streckeri* Skinner, and at first I took the four small, black specimens of *navajo* to be males of *streckeri* as they are the same color (black). They came from Fort Wingate, New Mexico and were taken May 13th, 25th, 31st and June 13th. One specimen's label says "on mountain back of Fort."

The name *navajo* was suggested by Mr. Wood. The butterfly comes from the home of these Indians.

The specimens of *streckeri* were taken on various dates through the month of June and make a new record for the species.

Yuccae and its two varieties may be distinguished from the other species of the genus by the distinct triangular white spot below the centre of the costa on the under-side of the secondary wings.

A new Datana (Lepid.).

By JACOB DOLL, Brooklyn, N. Y.

Datana neomexicana n. sp.

Very near *Datana integerrima* var. *cochise* Dyar in coloration but differs in having the fore wings of almost uniform pale gray color, sprinkled more distinctly with small, dark punctures; the costal shade rather feebly contrasted and of pale ochreous color; distal spot obsolete; the lines as usual; the oblique dash near apex obsolete; the form of fore wings as in *Datana californica* Dyar.

Habitat—New Mexico.

Type—One pair in the collection of the Museum of the Brooklyn Institute; cotype, one pair in my collection.

This species is very distinct from *D. integerrima* var. *cochise* Dyar, which it resembles at first sight more than any other *Datana*, by the characters given above which are constant in the specimens I have seen through the kindness of Messrs. Brehme and Erb.

Four new Gall Midges (Dipt.).

By E. P. Felt, Albany, N. Y.

The four species described below, including the representative of a new genus, were reared by Mr. W. H. Patterson, St. Vincent, W. I. Our knowledge of the gall midges of Tropical America is exceedingly fragmentary. Careful collecting and rearing would result in the finding of numerous unknown forms, some of which would doubtless throw much light upon taxonomic questions.

Asphondylia pattersoni n. sp.

This reddish brown midge was reared February 3, 1911, from the flowers of fiddlewood, *Citharexylum quadrangulare*.

Male.—Length, 1.75 mm. Antennae distinctly longer than the body, sparsely haired, light brown; 14 segments, the fifth cylindric, with a length five times its diameter; terminal segment wanting. Palpi: first segment subquadrate, the second with a length three times its diameter, somewhat expanded distally, the third fusiform, slightly curved, as long as the second. Mesonotum reddish-brown, the submedian lines an obscure yellowish. Scutellum yellowish brown, postscutellum fuscous yellowish. Abdomen rather thickly haired, yellowish brown, the basal segments darker, the genitalia slightly darker than the apex of the abdomen. Wings hyaline, costa light brown, the third vein uniting with the margin at the apex of the wing. Femora and tibiae mostly dark brown; claws moderately stout, strongly curved, simple, the pulvilli a little shorter than the claws. Genitalia: basal clasp segment greatly swollen, stout; terminal clasp segment short, greatly swollen, bidentate apically; dorsal plate divided, the lobes orbicular, sparsely setose. Other organs indistinct.

Female.—Length 1.75 mm. Antennae a little shorter than the body, sparsely haired, light brown; 14 segments, the fifth cylindric, with a length about five times its diameter; the thirteenth segment subquadrate, the fourteenth subglobose. Palpi: first segment short, subquadrate, the second subglobose, the third with a length four times its diameter and somewhat dilated. Ovipositor, when extended, about as long as the abdomen, the aciculate portion moderately stout; dorsal pouch apparently represented by an indistinct, thickly setose lobe hardly comparable with the highly developed organ observable in most species of *Asphondylia*.

Type.—Cecid a2132, N. Y. State Museum.

TOXOMYIA n. g.

The unidentate anterior claws and two circumfili indicate a relationship to *Erosomyia* Felt from which it is easily separated by alar characters. The dentate anterior claws prevent the reference to this form to *Contarinia* and the same is true of the genitalia, which latter approach in structure those of *Thecodiplosis*.

Type.—*Toxomyia fungicola* n. sp.

Toxomyia fungicola n. sp.

The small, yellowish midge was reared February 3, 1911, from the teleutospores of *Puccinia* species on *Emilia sonchifolia*.

Male.—Length .75 mm. Antennae twice the length of the body, thickly haired, light brown; 14 segments, the fifth having the two portions of the stem with a length 2½ and 3½ times their respective diameters; the basal enlargement subglobose, the subbasal whorl thick, the circumfilum with long loops, those on the dorsal surface produced to extend beyond the subglobose distal enlargement, which latter has a scattering subbasal whorl of stout setae and a circumfilum with long loops, likewise somewhat produced on the dorsal surface and extending beyond the base of the following segment; distal segment produced, the basal portion of the stem with a length fully seven times its diameter, the distal enlargement subglobose and with a slightly tapering, finger-like process having a length five times its diameter; mouthparts somewhat produced. Palpi: first segment short, subquadrate, the second with a length twice the first, rather slender, the third as long as the second, the fourth a little longer than the third; the entire body a pale yellowish or yellowish red; the genitalia somewhat fuscous. Wings hyaline, costa light straw, subcosta uniting with the margin at the basal third, the third vein a little beyond the apex; the fifth vein uniting with the posterior margin at the distal fourth, its short branch near the basal third. Halteres yellowish transparent, fuscous apically. Legs mostly pale straw, the distal tarsal segments darker; claws long, slender, evenly curved, the anterior unidentate, the pulvilli rudimentary. Genitalia: basal clasp segment moderately long, slender, with a distinct, broadly rounded, setose lobe at the internal basal angle; terminal clasp segment slightly swollen basally, long and evenly curved; dorsal plate short, roundly and triangularly emarginate, the lobes broad, truncate and sparsely setose; ventral plate a little longer, rather broad, triangularly emarginate, the lobes rather stout, slightly diverging and

setose apically; style moderately long, tapering, broadly rounded apically.

Female.—Length .75 mm. Antennae a little longer than the body, thickly haired, dark brown; 14 segments, the fifth with a stem one-third the length of the cylindric basal enlargement, which latter has a length over twice its diameter; subbasal whorl of setae stout and sparse; subapical band scattering; terminal segment produced, the basal enlargement subcylindric, with a length fully four times its diameter and apically a rather stout, finger-like process. Ovipositor short, the terminal lobes narrowly oval, slightly constricted basally and sparsely setose. Other characters nearly as in the male.

Larva.—Length 1.25 mm., rather stout, pale yellowish with pinkish extremities. Head rather long, narrowly triangular, the anterior third chitinized. Antennae rather stout, with a length five times their diameter and arising from distinct elevations; breast-bone wanting. Skin coarsely shagreened, the segments each with a lateral seta near the middle; posterior extremity contracted, the thirteenth segment half the width of the twelfth, the fourteenth about a third narrower than the thirteenth, truncate, with a long seta at each latero-posterior angle and two pairs of submedian short, stout, semi-transparent tubercles at the dorsal extremity.

Type.—Cecid a2134, N. Y. State Museum.

Contarinia lycopersici n. sp.

The species described below was reared February 3, 1911, from the flowers of tomatoes, *Lycopersicum esculentum.* It appears to be allied to *C. solani* Rubs. though there are marked differences in colorational characters, and a comparison with a female specimen of the European form, kindly sent us by Prof. Rubsaamen, shows certain structural differences. The West Indian species has relatively longer and more slender antennal segments.

Male.—Length .75 mm. Antennae twice the length of the body, thickly haired, light brown; 14 segments, the fifth having the basal portion of the stem with a length one-half greater than its diameter, the distal part with a length 2½ times its diameter; basal enlargement subglobose, the subbasal whorl sparse, the loops of the circumfilum long, those on the dorsum produced and extending to the apex of the segment, the distal enlargement slightly produced, broadly oval, with a sparse whorl of setae and a similar circumfilum, the loops of the latter extending to the tip of the basal enlargement on the following seg-

ment; terminal segment produced, the basal portion of the stem with a length four times its diameter, the distal enlargement fusiform, with a length nearly three times its diameter and apically with a long, finger-like process. Palpi: first segment short, subquadrate, the second narrowly oval, with a length about twice its diameter, the third one-half longer than the second, more slender, the fourth a little longer and more slender than the third. Mesonotum reddish brown, the submedian lines yellowish. Scutellum and postscutellum fuscous yellowish. Abdomen mostly fuscous yellowish. Wings hyaline or nearly so. Halteres yellowish transparent, fuscous apically. Legs mostly dark brown, the basal third of the tibiae, especially those of the posterior legs, yellowish; claws long, slender, evenly curved, the pulvilli a little shorter than the claws. Genitalia: basal clasp segment rather long, stout; terminal clasp segment stout, tapering; dorsal plate rather long, deeply and roundly emarginate, the lobes diverging, sparsely rounded; ventral plate deeply and triangularly incised, the lobes diverging, tapering, both sparsely setose; style short, tapering, acute.

Female.—Length 1 mm. Antennae nearly as long as the body, rather thickly haired, dark brown; 14 segments, the fifth with a stem one-quarter the length of the cylindric basal enlargement, which latter has a length 2½ times its diameter; subbasal whorl sparse, subapical band rather long, the setae long and strongly curved; terminal segment produced, with a length four times its diameter and apically with a rather stout process, having a length fully twice its diameter. Palpi: first segment subquadrate, the second narrowly oval, with a length twice its diameter, the third a little longer and more slender than the second, the fourth longer and more slender than the third. Mesonotum reddish brown, the submedian lines yellowish. Scutellum reddish brown, postscutellum probably darker. Abdomen dark brown. Wings subhyaline, with rather distinct fuscous spots on costa and at the posterior margin near the basal third, at the distal fifth on the third vein and on the posterior branch of the fifth, some specimens showing a rather indistinct fuscous band near the distal fifth of the wing. Ovipositor, when extended, distinctly longer than the body; terminal lobes very slender, with a length five times the diameter and sparsely setose.

Larva.—Length 1.5 mm., yellowish white, rather stout. Head small; antennae short, stout; breast-bone with a subquadrate head, bidentate; the short, obliquely truncate, blunt teeth widely separated, yellowish brown, the remainder of this structure semi-transparent, the shaft being slender. Skin nearly smooth, posterior extremity broadly rounded.

Type.—Cecid a2135 and a2090, N. Y. State Museum.

Hyperdiplosis coffeae n. sp.

The midge described below was reared February 3, 1911, from the fruits of the Liberian coffee tree, *Coffea liberica*. It is tentatively referred to this genus, since the claws are less strongly bent, while the circumfili are more produced than in other species placed in this group.

Male.—Length 1 mm. Antennae nearly twice the length of the body, thickly haired, light brown; 14 segments, the fifth having the two portions of the stem, each with a length about thrice the diameter; the basal enlargement subglobose, the subbasal whorl rather thick, stout, the circumfilum with loops extending to the produced distal enlargement, which latter has a length twice its diameter, a sparse whorl of rather long setae, subbasal and subapical circumfili, the loops of the latter extending to the apex of the segment; terminal segment produced, the basal portion of the stem with a length four times its diameter, the distal enlargement subcylindric, tapering distally and with a length four times its diameter and apically a long, finger-like process with a length four times its diameter and subacute distally. Palpi: first segment probably subquadrate, the second slender, with a length four times its diameter, the third a little longer than the second, more slender; the fourth as long as the third, dilated; eyes large, black. Entire body a pale yellowish. Wings yellowish white, costa very pale yellowish, the third vein uniting with the margin well beyond the apex of the wing. Halteres whitish transparent. Legs mostly a light straw, the distal tarsal segments darker; claws stout, strongly bent and swollen subapically, simple, the pulvilli shorter than the claws. Genitalia: basal clasp segment short, stout, obliquely truncate; terminal clasp segment as long as the basal clasp segment, swollen basally, curved; dorsal plate nearly as long as the ventral plate, triangularly incised, the lobes obliquely emarginate and sparsely setose; ventral plate long, broad, very deeply and roundly emarginate, the slender lobes diverging, narrowly rounded and sparsely setose apically; style long, stout, broadly rounded.

Female.—Length 1 mm. Antennae about as long as the body, thickly haired, yellowish brown; 14 segments, the fifth with a stem about three-quarters the length of the cylindric basal enlargement, which latter has a length thrice its diameter; subbasal whorl sparse, the subapical band thick, the setae long and strongly curved; terminal segment produced, the basal enlargement subcylindric, with a length four times its diameter and apically with a long, finger-like process. Ovipositor short, the terminal lobes narrowly lanceolate and sparsely setose. Other characters nearly as in the male.

Type.—Cecid a2133, N. Y. State Museum.

Chrysomela staphylea Linne in North America (Col.).

By FREDERICK KNAB, U. S. Department of Agriculture, Washington, D. C.

In order to settle, if possible, the identity of certain Coleoptera, described by Kirby, from Nova Scotia, I wrote letters to several collectors at Halifax. As the result of this correspondence I received a box of beetles kindly collected for me by Mr. Joseph Perrin, of MacNabs Island, near Halifax. They were all larger beetles, mostly familiar species, and none of the species I wished to see were among them. There were, however, three specimens of a *Chrysomela* (restricted sense) which I at once recognized as distinct from any of the species attributed to our fauna. Yet the insect had a strangely familiar appearance, and naturally the suspicion arose that it might be one of the numerous European species. So it proved, and the specimens were quickly identified as *Chrysomela staphylea* Linné, a very common species in Northern Europe. In fact, the species is one of distinctly boreal distribution, extending through Siberia and Northern Europe, and ranging southward to the Caucasus, Dalmatia, the Tyrol and the Pyrenees.

Comparison with European material and with descriptions showed that the Nova Scotia specimens agree in every respect with typical European ones. The beetle is uniformly ferruginous brown in color, with a slight brassy luster on the upper surface. Immature specimens are a lighter, opaque rust-red, without the metallic luster. In form it is similar to our *Chrysomela auripennis*, although slightly broader and with less prominent humeri. The pronotum is very finely and rather densely punctured. The elytral punctuation is coarser and more sparse, in more or less confused double series; in some specimens two or three impunctate intervals appear.

There appears to be but one previous record of the beetle from North America, and this with a query. A single specimen is reported by Mr. J. D. Evans as taken at Halifax in

1897[1]. Mr. Evans had some doubt that his specimen belonged to the European species, for he had only a single European specimen for comparison and this showed differences in the punctuation and in size. A good series of European specimens of *Chrysomela staphylea* before me shows considerable variation in these respects, fully covering the differences noted by Mr. Evans. The three specimens recently captured by Mr. Perrin remove all doubt that Mr. Evans had the European species.

The occurrence of *Chrysomela staphylea* at a seaport in constant communication with Europe naturally leads to the supposition that it was introduced through commerce. It is barely possible that we have here an additional circumpolar species, but in this case it should have been found in other northern localities; however, our knowledge of the insect fauna, past and present, of boreal America is too limited to warrant a conclusion. All three specimens sent by Mr. Perrin were captured on MacNabs Island near Halifax. I wrote to Mr. Perrin to ascertain if much European shipping touched at this point, and the presence of the beetles could be accounted for in this way. Mr. Perrin replied as follows: "The beetle you refer to may have been imported with some farm and garden seeds that we have had, or else by the former owner of this place. There being no shipping to the island, I cannot account for it in any other way. Of course there is much shipping from Europe done at Halifax, but that is at least two and a half miles from the nearest point of land from here." Entomologists will agree with me that the probability of the beetle having been introduced with garden seed is rather remote—it probably reached the island indirectly, as it seems from the above record that it was previously established on the nearby mainland. At all events the insect is well established on the above named island, specimens having been captured at considerable intervals, one of them on June 18, 1910, the other two on August 5 of

[1] List of Coleoptera from Halifax, N. S. Can. Ent., vol. 31, p. 320-321 (1899).

the same year. *Chrysomela staphylea* should be looked for elsewhere in eastern Canada. If the beetle proves to be restricted to a limited area about Halifax, it will be evident that it is an importation. On the other hand, wide distribution will indicate that the species is indigenous.

The beetle is one that would not be diffused rapidly, as it is sluggish in habits and incapable of flight. Although provided with wings, these are reduced in size and not functional. They are narrow, corneous pads, no longer than the elytra, and lie under these without folding. Several specimens that I examined, from both sides of the Atlantic, all showed the same condition. About the only chance for rapid distribution of such an insect would be along some river, where the hibernated beetles would be carried down stream by the spring floods; but this cannot operate in the case of a species which has become established at the seaboard.

Although *Chrysomela staphylea* is a common species in Europe, very little appears to be known of its habits. Rosenhauer[2] and Buddeberg[3] have bred the beetle and described the early stages. Both obtained their larvae from eggs laid by captive females. Rosenhauer obtained eggs in September, and again in March from the hibernated beetles. The eggs laid in the fall did not hatch until the following spring[4], a rather remarkable occurrence in a chrysomelid. We can hardly imagine the eggs surviving the rigorous winters of Nova Scotia. Eggs were obtained in March, by both Rosenhauer and Buddeberg, from females taken in flood drift. Rosenhauer states that these eggs hatched very irregularly during April and May; the larvae avoid the light and, particularly when young, are very sluggish.

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[2] Entom. Zeitung, Stettin, vol. 43, p. 151-152 (1882).

[3] Jahrbücher Nassau. Ver. Naturk., vol. 41, p. 33-34 (1888).

[4] It is interesting, in this connection, to note the observation of Buddeberg on the hibernation of the eggs of *Timarcha tenebricosa* F. (l. c., p. 43). He found that the eggs deposited in the summer hibernated regularly, in spite of the fact that in July the young larvae were already fully developed within.

There appear to be no records of the food-plants of the beetle in nature—Buddeberg remarks that he has never found the beetle on a plant and most writers speak of the beetle as being found under stones, or running on the ground. Probably, like many other European species of *Chrysomela,* it is crepuscular or nocturnal.

The beetle was called *"staphylea"* by Linné, not because it was supposed to feed on the plant of this name, but on account of its resemblance in color to the seeds of the plant. Rosenhauer fed his larvae with *Mentha crispa* from the greenhouse, and later with *Mentha sylvestris* and *Ranunculus acris*—Buddeberg offered a great variety of plants to his beetles and found that they preferred *Veronica beccabunga,* leaving the other plants untouched. The larvae showed a preference for the same plant, but also ate *Mentha aquatica* and *Lycopus europaeus.*

Notes on the Species of Acronycta and Descriptions of new Species (Lepid.).

By JOHN B. SMITH, Sc.D., New Brunswick, New Jersey.

Incident to the preparation of a paper on the Californian species of *Acronycta,* I found it desirable to compare my collection with the revision by Sir George F. Hampson, in Vol. VIII of his Catalogue of British Museum Noctuidæ. The receipt of a number of species for determination, including a little lot from Mr. E. Firmstone Heath, of Cartwright, Manitoba, gave further opportunity of comparing some of the species rather closely, and these notes are the result.

As a rule, I am inclined to follow Hampson in his identifications and synonymical references, even when I am not fully agreed, because of the desirability of getting at some fixed determination of species. Furthermore, he is usually right where he has had sufficient material upon which to base a satisfactory conclusion. Finally, there are some cases where a number of specimens marked types by the original describer

and distributed in different collections, are not really the same species, and in most of such cases the British Museum specimens have the best claim to be considered the determining forms. And so in the case of the *Acronycta,* I have accepted the references of Vol. VIII, except where I feel reasonably certain that they will not stand the test of future comparisons, or where for some reason an error would follow an acceptance of the conclusion.

With the method of arrangement adopted by Hampson, I do not agree at all; but that is a purely subordinate matter based on a difference in the fundamental characters used in making the subdivisions.

My own views are sufficiently given in the Monograph of the genus, Proc. U. S. Nat. Mus., XXI, 1—194, 1898.

Acronycta hastulifera S. & A.

Hampson records this species as unknown to him. Under the name *insita* Wlk., he figures on Pl. CXXVII f. 3, a species that is almost certainly the species in my collection and in others under the name *hastulifera.* My *denvera* is cited as a synonym of *insita,* which it is not, if *insita* is really *hastulifera,* as I believe. The descriptions of larvæ differ; but whether Dyar, who furnished both descriptions, had the larva of the Colorado form or not, I have no way of determining.

I believed my *denvera* to be a form of *dactylina;* in that I was probably in error, and it may be nearer to *hastulifera.* If there is a species *insita,* so near to *hastulifera* that neither the description nor the picture avail to separate the two, I do not know that species. I saw *insita* in 1900, and at that time compared the ♀ with ♂ *dactylina.*

Acronycta lepusculina Gn.

This species had been altogether misidentified in American collections and is the form I had determined as *insita.*

Hampson has pointed this out after an examination of the type and gives the name *chionochroa* to the form mistakenly characterized in the monograph under the Guenée name.

Acronycta felina Grt.

My identification of this was erroneous. The scant material from the original locality led to an error in estimating range of variation. This error extended also to the author in labelling the original type series; hence the types are not conspecific. The British Museum material, containing the specimens from the author's own collection, must be accepted as having the true type, and that is as figured by Hampson. I have only one example, which had been associated with my *pacifica*.

Acronycta metra n. sp.

Head, thorax and primaries very dark blue gray, powdered by black atoms, but not roughened or irrorate. Sides of palpi black, and a black line to base of primaries. Thorax without markings of any kind. Primaries without trace of transverse maculation: veins only a trifle darkened, so that the wing appears almost uniform in color. A narrow black basal streak, extending about one third across wing in sub-median interspace, and a slightly more conspicuous streak not continuous with it, through outer third of same space, not quite reaching the outer margin. Orbicular wanting, reniform indicated by a small blackish dot at outer angle of cell inferiorly. Fringes very narrowly cut with black over the interspaces. Secondaries soiled whitish, darker and with the veins marked in the female. Beneath whitish; all wings with a discal spot and a broken extra-median line.

Expands 41-49 mm. = 1.65-1.95 inches.

Habitat—Seattle, Washington: Colorado (Bruce).

The ♂ is the smaller, lacks the abdomen, but is otherwise in good condition. The female, from Bruce, is an old specimen that I had kept questionably as *felina* for many years, and is in fair condition. The thoracic vestiture is hairy, as in the *oblinita* series, the collar and patagia not well marked, the wing form trigonate, apices somewhat drawn out, much as in *frigida* Sm., and *cyanescens* Hampson.

Acronycta turpis n. sp.

Head, thorax, abdomen and primaries very pale bluish gray, with a scant powdering of black scales. Palpi at sides and a narrow line to base of primaries black. Primaries with all the veins marked by black scales so as to make them traceable throughout their course. A narrow black streak from base through sub-median interspace, al-

most lost before the middle of the wing, then better marked again through outer third, almost to the outer margin. Orbicular lost; reniform a very narrow dusky crescent at end of cell. T. a. line lost. T. p. line traceable across the wing as a rather broad though vague whitish sinuate line. Secondaries white. Beneath almost snow white, with small discal spots, primaries with a trace of an extra-median line.

Expands 42 mm. = 1.70 inches.

Habitat—Provo, Utah, VII, 24.

A single male, in good condition, from Mr. Thomas Spalding. The species is an ally of *metra,* with similar habitus, vestiture and wing-form, but much paler and whiter throughout, with the narrow, crescent-like reniform and pale s. t. line. The simplicity of the maculation should render it easily recognizable.

Acronycta amicora n. sp.

Head, thorax, abdomen and primaries ashen gray, with a faint yellowish tinge. Palpi black at sides, with a narrow black line extending to the base of the primaries. All transverse maculation of primaries lost; all the veins slightly darker and feebly relieved. A narrow black line extends from base to outer margin through submedian space, traceable only as a line of black scales at the middle of its course. Another short black streak is in the interspace beyond the cell, and the fringes are rather distinctly cut with black on the interspaces. Orbicular elongate, decumbent, pointed anteriorly, obscurely outlined by black scales. Reniform a dusky lunule at end of cell. Secondaries soiled whitish, with a yellowish suffusion. Beneath whitish with a yellowish tinge, somewhat powdery, all wings with a good sized, round, somewhat diffuse discal spot, but without extra-median line.

Expands 46 mm. = 1.85 inches.

Habitat—Senator, Arizona.

One female, an old specimen and perhaps a little discolored. It is obviously related to *metra* and *turpis,* but differs from both by the black streak opposite cell and by the narrow, decumbent orbicular.,

There is nothing on the specimen to indicate the source from which I originally received it.

Acronycta hasta Gn.

This species as described by Hampson in Vol. VIII, p. 73, and figured on Pl. CXXIV, f. 22, is not the *hasta* of my collection or of my Monograph, nor, I believe, of Guenée. It is the species that for many years masqueraded as *clarescens* Gn., and was subsequently referred by me to *pruni* Harr. The type of *hasta* is not in the British Museum, and there is no statement by Hampson that he has seen it. Guenée's description does not in the least fit *pruni,* which is never a deep violaceous ashen—"cendré violatre foncé," but rather "gris-cendré clair saupoudré de noiratre." Nor could *pruni* ever be called "très voisine" of *furcifera.* As the matter stands, I prefer to retain *pruni* Harr., as representing the species now known to us in all stages, while for *hasta* I prefer to retain the dark blue gray species which is really a very near neighbor of *furcifera.* I might add that Hampson apparently includes under *furcifera,* the species that I have separated as *hasta.*

Acronycta telum Gn. Noct. 1, 45.

This species has not heretofore been definitely identified in collections. Guenée described it from a single male out of his own collection, comparing it with *furcifera* and *hasta,* and giving the locality as "Amerique Septentrionale." Walker turned the original description into Latin, abbreviating and laying stress upon the character of the secondaries, as by the terms of the original he was justified in doing. He gives the locality as "United States," but apparently knew nothing more of the species.

Mr. Grote, in the Bull U. S. Geol. Surv. VI, 571, 1883, translates Guenée's description into English, omitting, probably by accident, a portion of the description of primaries. He adds that "I do not identify this description." In Papilio, III, 67, he remarks that this must resemble *hasta* and *furcifera.*

In my Catalogue of 1893 no progress is recorded and the species yet stands unindentified.

In my revision of *Acronycta,* p. 87, 1898, *telum* is referred

as a synonym to *hasta* without explanation or comment. I do not at this time remember my reason for this action which has been followed without question by later writers, including Hampson in 1909.

Two female specimens received from Mr. Heath, one dated VI, 29, '08, the other, VIII, 19, '09, attracted my attention at once by their resemblance to *hasta* and their immediate suggestion of a different species, based first, upon the brilliantly clear maculation of primaries, and second, upon the pearly lustred blackish secondaries. On the underside especially, the secondaries are very strongly marked, and comparison with the original description of *telum* makes it as certain as an identification from a description can well be, that the real "*telum*" has been at last discovered.

It gives us the three species in the order described by Guenée—*furcifera, hasta* and *telum,*—close allies in a way, in the order seen by him, and makes his descriptions clear. *Furcifera* is the largest of the species and has a decided yellowish shading throughout, but more conspicuous in the secondaries, which are strongly mottled beneath and often have, in the best marked examples, a longitudinal black streak in the cell near base. *Hasta* is decidedly smaller, the primaries are blue gray, the black markings thicker and more conspicuous, the secondaries whitish with very little yellow shading, especially on the male. On the under side the mottling is much reduced, and in none of my specimens is there a longitudinal black bar in the cell.

Telum is as intense a blue gray as *hasta,* but is distinctly more black powdered, and the maculation seems more intensely black. The secondaries are really blackish, especially toward outer border and the pearly lustre is obvious. The under side is as heavily marked as in the best *furcifera* and the streak in the cell is obvious. It is more than likely, however, that this is a somewhat variable feature and may not be nearly so well marked in all examples.

Acronycta exilis Grt. and **A. modica** Wlk.

In the monograph I united these two forms. After seeing the types, in 1900, I admitted their possible distinctness (Can. Ent. XXXII, 335). Hampson describes and figures them as separate. After looking over the series before me, I am as undecided as ever and cannot find a single reliable character on which to base two series. There are always some three or four examples that will not fit better into one series than into the other. With the British Museum material only at hand, the two forms seem distinct enough; *exilis* being smaller, paler and apparently rare.

Acronycta inclara Sm.

This name was proposed by me in 1900, Can. Ent. XXXII, 335, for the species theretofore known as *hamamelis* in collections, and it has no type. There is a considerable range of variation in this aggregation, and it may be convenient to fix more definitely the one to be covered by this name. Hampson in his Catalogue Vol. VIII, p. 8, describes, and on Pl. CXXIV, 28, figures one of the common types, and this may be accepted as the type of the name.

There seems almost no end to the variations in this species, and many of these seem local; but there is on the whole a characteristic facies that distinguishes a series, and that is not well brought out in the figure. There is an obscure streak crossing the s. t. line in the sub-median interspace, beginning a little beyond the middle of the wing. From the beginning of this line a triangular dusky shade extends above it, reaching the outer margin at vein 7 and forming a darker triangular patch, which is traceable in every specimen and characteristic in a large series. There are variations in ground color from white to gray, mossy shadings, brown shadings and yellowish shadings, and no end to the differences in contrasts; but this one feature remains throughout.

I have had from Mr. Heath, at various times, nearly a dozen examples of what seems to be a local race, at least, and which he is inclined to consider specifically distinct from

inclara. It is a little smaller than the normal examples, lacks all reddish or mossy suffusions, and has the maculation a clearer, more contrasting white and black or blackish. The secondaries also are decidedly more blackish gray without the distinct yellowish tinge. I cannot, however, draw any line at present and call attention to the matter here for the benefit of those who may be so situated as to work out the relation of the two. As a race it may be called *inconstans*.

Acronycta tristis n. sp.

With all the normal maculation of *inclara;* but without contrasts, the lines and markings just enough darker than the ground to be easily made out. Ground color a uniform dark smoky ashen gray, the pale annulus to the round orbicular being usually the only obviously relieved feature of the wing. Secondaries sub-transparent white, soiled with blackish, tending to blackish in the female, the lines and discal spot of underside showing clearly. Beneath with a pearly lustre, blackish outwardly, both wings with discal spots and conspicuous, more or less lunulate, extra-median lines.

Expands 35-37 mm. = 1.40-1.50 inches.

Habitat—Canada VIII, 5; Cohasset, Mass., VII, 1, 4; Johnson City, Tenn., VII.

Four males and two females, in fair condition. These specimens had been included as uniform examples of *inclara* in my collection; but they differ obviously in lacking all trace of the triangular dark shading, which is characteristic of that species.

This is not the *hamamelis* figured by Hampson, despite its uniform dark tint. Hampson's figure shows correctly, the small, round, white-ringed orbicular which is characteristic of *afflicta* and its immediate allies. In none of the forms of the *inclara* series does this type of orbicular ever occur.

Acronycta haesitata Grt. = **A. clarescens** Gn.

In the monograph I concluded that these two names referred to one species, basing my opinion on the best available information as there set out. In 1900, when I saw the types, I wrote myself in error, (Can. Ent. XXXII, 335) and concluded that the species were distinct. Mr. Grote's species was

as I had it; but *clarescens* Gn., I concluded, was really the species that had been called so by Mr. Grote, and for which I had resurrected *pruni* Harris. This "*pruni*" is a common enough species, I had dozens of bred specimens, and I thought I knew it under all circumstances.

Hampson cites, in consequence, *A. clarescens* Gn., = *pruni* Harr. (Smith); *A. haesitata* Grt., = *clarescens* Sm., nec Gn. He figures *clarescens* and *haesitata* on Pl. CXXIV, figs. 29 and 21, respectively, apparently from the types, and of a certainty neither of these figures nor the descriptions can possibly refer to *pruni* Harr., which is the species figured and described by Hampson as *hasta* Gn.

In looking carefully over my series of *haesitata*, I have exact duplicates of the figures of both *haesitata* and *clarescens*, and find it possible to separate the series passably into two forms, satisfying the requirements of Hampson's tables and descriptions. The figures are characteristic, and I do not see how an error is possible; but if Hampson is right in his identification of these two forms, then my original conclusion that *haesitata* Grt. = *clarescens* Gn., is correct.

That would make necessary an admission on my part that with two specimens of a form so well known to me as *haesitata*, I positively declared one of them to be a distinct and equally well known other species, and that admission I am not ready to make. Hampson refers to two females from Trenton Falls as the types of *clarescens*, and that is in accord with Guenée's record. The female type of *haesitata* is from Pennsylvania. In my notes I refer to a "type" of *clarescens*, and a possibility remains that the two Guenée specimens are not specifically identical. The two certain points are that *clarescens* Hamps. = *haesitata* Hamps. and that *clarescens* Hamps. is not *pruni* Harr.

Acronycta hamamelis Gn.

Hampson lists this as a good species, closely allied to *afflicta*, based on one male and one female. The figure is based on the type, and from my recollection and notes it seems to be accu-

rate. I yet believe that it is not different from *afflicta*, all the characteristic maculation being obvious. The only disturbing feature is in the smoky secondaries, those of all the *afflicta* that I have ever seen being whitish.

I am ready, under the circumstances, to admit a species that I have never seen, and which is the true *hamamelis* Gn., as distinct from *afflicta* Grt.

Acronycta speratina Smith.

Hampson refers this as a synonym to *sperata*, mentioning it again under Ab. 1, as larger and paler, fore wing with the markings more diffused.

As species go in this genus, I am not ready to assent to this disposition of *speratina*, which is at least a very good geographical race, and I am inclined to hold out for its rank as a good species.

Notes on Pennsylvanian Diptera, with two new Species of Syrphidae.

By W. R. WALTON, Bureau of Entomology, Washington, D. C.*

(Plate IX).

Criorhina (Penthesilia) nigriventris n. sp.

Habitat Pennsylvania. ♂ Length 17 mm. Antennae blackish, 1st joint black, shining, a little longer than second which is black verging to brown on apical end. Third joint distinctly broader than long, front border convex. Front and face golden yellow pollinose, somewhat more dense on sides. Cheeks and oral margin shining black. Sides of antennal tubercle and transverse impression of face sparsely clothed with long black hairs. Pile of ocellar triangle black, that of vertex yellow. Thorax black with a median opaque band, also an elongate opaque spot extending from post alar callus nearly to but not touching the transverse suture. Elsewhere shining and covered with long pale yellow pile excepting a faint transverse band of black hairs just caudad of the transverse suture. Scutellum black, shining, covered with long pale yellow pile. Pleurae yellow pilose. Abdomen broad, entirely shining pitchy black, covered with long

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black pile excepting a triangular area on the disc of second segment which is nearly bare. All femora black, shining, bearing long black hairs. Tibiae black, apical ends brownish. Hind tibiae strongly bent ventrad. Front and middle tarsi light brown, apical joints darker. Hind tarsi black above and brown below. Wings smoky, stigma yellowish.

Type a unique ♂. Deposited in U. S. National Museum, Washington, D. C. Collected by W. S. Fisher, Harrisburg, Pa., March 24, 1910, resting on a tree trunk. Mr. D. W. Coquillett has kindly compared this and the following species for me.

Syrphus fisherii n. sp.

Habitat Pennsylvania. ♀ Length 8 mm. Antennae brownish, eyes glabrous. Face yellow with whitish pollen; in the middle a shining brown stripe extends from the oral margin across the facial prominence but ends abruptly before the base of antennae; oral margin brown. Front, shining pitchy black with a band of grayish pollen forming a continuous Gothic arch above antennal tubercle; the sides of this arch run down along the eyes and coalesce with the facial pollen. Antennae inserted on a distinctly yellow ground. No part of face or front shows any trace of metallic color. Thorax black with a faint green metallic tinge, scutellum and halteres dull yellow, scutellum brown at extreme ends. Abdomen rather narrow, somewhat constricted at base, first segment black; second segment, yellow cross band very broad, narrowly interrupted forming two large, lemon yellow, quadrate spots reaching anterior margin, remainder of segment shining black; third and fourth segments shining black, with basal, narrow, nearly straight, interrupted, cross bands of ochre yellow, reaching laterad but not touching anterior margin of segment; fifth segment black with small ochre yellow triangle at outer corners touching anterior margin, also a very narrow lunule bordering posterior margin; remainder of abdomen black. Front and middle legs testaceous, femora brown at base. Hind legs blackish, knees brown.

Type a unique ♀, from Inglenook, Pa., September 12. The species is named in honor of Mr. W. S. Fisher, who collected it and to whom the author is indebted for this and many other fine Diptera.

Microdon laetus Loew.

Type locality, Cuba. The validity of this species seems previously to have been somewhat doubtful. The specimens

from which the following descriptions are drawn were taken in the vicinity of Harrisburg, Pa., and have been determined by Mr. D. W. Coquillett.

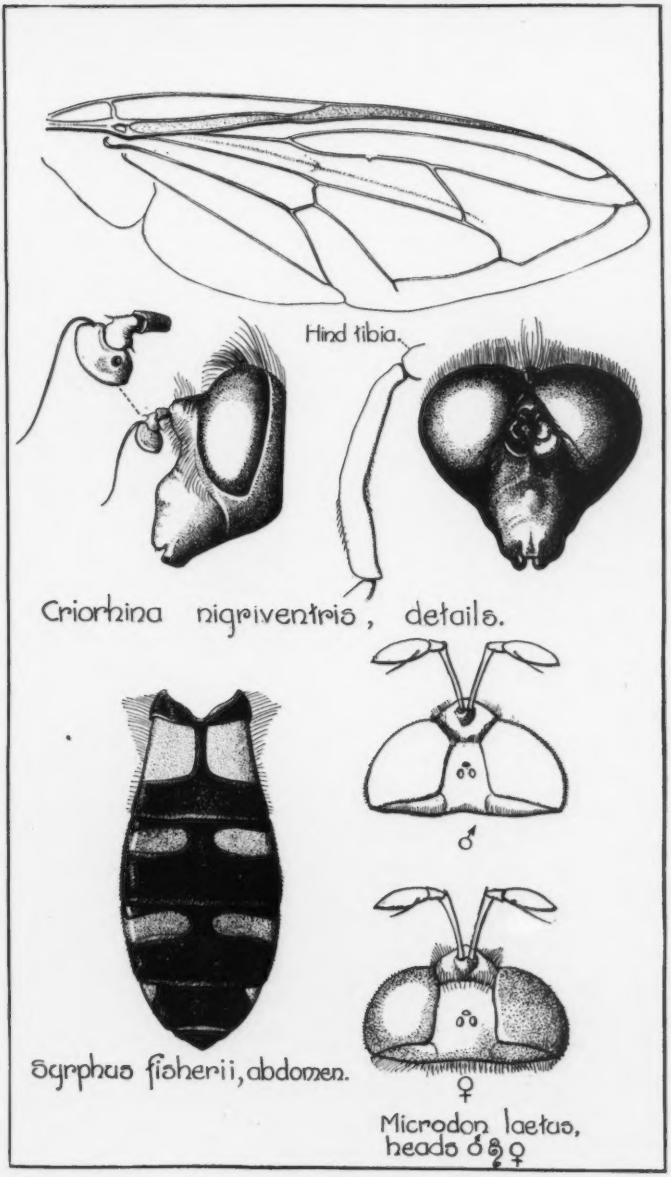
♂ Length 10 mm. Slender, shining metallic green. Face metallic shining green, narrow, sides parallel, sparsely clothed with pale yellow pile; front rather strongly constricted midway between ocelli and base of antennae, metallic shining green excepting ocellar tubercle which is violaceous; pile of front black sprinkled with yellow. Antennae black, third joint somewhat shorter than first. Ocelli quite remote from vertex. Eyes shortly and sparsely pilose. Thorax, dorsum and pleurae metallic shining green, thinly covered with pale yellowish pile which is more dense on pleurae. Scutellum subconvex, metallic green, impressed, sparsely pale yellow pilose, bearing an obtuse concolorous tubercle upon each side of apex. Abdomen slender, metallic green, punctulate and thinly clothed with pale yellow pile; apical segment blackish. Femora and tibiae metallic green; tarsi blackish above and brown beneath.

♀ Differs as follows from ♂. Pile of face nearly white, sides of front parallel. Color of entire body of somewhat bluer cast. Disc of thorax with violet tinge; last two segments of abdomen violaceous.

One specimen, Carlisle Junction, Pa., F. Craighead. One specimen, Enola, Pa., H. F. Adams. One specimen, Rockville, Pa., author.

Idana marginata Loew.

In life this is a very handsome species. Apparently it is quite local in distribution and exists but a short time in the adult stage. It is to be found in shady spots bordering roadsides or along the edges of wooded land, and seems to be particularly fond of roosting on old rail fences, and is to be sought only upon warm, still days. It has the habit in common with many other Ortalids of strutting about with the wings held at right angles to the body, occasionally rotating them through a quarter circle forward and back while held in this position. The species flies swiftly but usually alights within a few feet of its original resting place. During life the darker portions of the wings and body have a metallic purplish luster which entirely disappears in dead and dried specimens. Taken rather plentifully some years in June near Harrisburg, notably at Progress, Pa., in 1909 by Mr. H. D. Bailey and the writer.



PENNSYLVANIA DIPTERA—WALTON.

Eustalomyia vittipes Zett. (*Anthomyidae*).

In describing the male of this species, Mr. P. Stein comments upon the rarity of the fly in collections. It may be of interest, therefore, to record the fact that this fly has twice been reared from material collected from the interior of rotten logs in the winter season at Harrisburg, Pa. The insect was in the pupal stage and upon both occasions was in close proximity to cells of hymenopterons. Collections made by Paul Myers and A. B. Champlain. The following hymenopterons were reared in connection with it. *Crabro* (*Xestocrabro*) *trifasciata* Say, *Crabro maculatus* Fabr., *Thyreopus* (*Blepharipus*) *impressifrons* F. Sm. and *Pemphredon concolor* Say.

The puparium is chestnut brown, 8 to 9 mm. in length and from 2 1-2 to 3 mm. broad. Dorsally extremely polished, ventral side minutely wrinkled between the segments.

Ectecephala albistylum Macq.

Type locality North America. This rather curious Oscinid seems to have escaped recording for some reason. It seems to be not uncommon in the vicinity of Harrisburg, Pa., Mr. W. S. Fisher having swept it from grass on several occasions, and the writer has also taken it in Harrisburg. Mr. D. W. Coquillett has confirmed our determination.

Pyrellia serena Meigen. = **(P. cyanicolor** Loew.).

This Muscid, apparently adventitious from Europe, appears to have been overlooked by collectors; it is rather common in Pennsylvania, but as it resembles superficially the much more common *Morellia micans*, its presence in collections possibly remains unsuspected.

The distinguishing characters may be summarized as follows: Color of body, dark steely blue, occasionally greenish blue; thorax with three longitudinal, rather faint, hoary pollinose stripes. Sterno-pleural bristles 1-3; a stout bristle on the flexor surface of the middle tibia, first posterior cell rather widely open, 4th vein being only gently curved forward.

I first recognized this species among some Muscids collected by Mr. Erich Daecke, on the flowers of *Trillium erectum*,

near Harrisburg, and which were referred to me for identification. Subsequently it was found in both my own and Mr. Daecke's collections, having been confused with *Morellia micans,* which it quite closely resembles.

From several collections made during the winter months by Mr. A. B. Champlain at Harrisburg, Pa., it is shown that at least some of the adults of both sexes hibernate in such places as old stumps and rotten logs.

Observations on the Lepidoptera of St. Louis, Missouri and Vicinity during 1910.

By The Members of the St. Louis Entomological Club.
Compiled by Paul A. Schroers, St. Louis, Mo.

The salient feature was the scarcity of Rhopalocera and the abundance of Heterocera.

Following several weeks of hot weather during March and early April, all the early species of Lepidoptera, double brooded and overwintering forms were on the wing. Then came a severe cold wave with blizzards and killing frosts which left the green garb of Spring burnt to a rusty crisp, and insect life practically annihilated. It was a dreadful blow, from which many species never recovered fully. Most of the ovipositing was over and newly hatched caterpillars, as well as others that had hibernated, were found in icicles hanging from trees and shrubs.

Those that suffered mostly were the: Pieridae, Lycaenidae and Papilionidae. The latter, however, recuperated somewhat in the second brood.

Here are the principle observations made on different species following the usual order:

RHOPALOCERA.

Phyciodes—Common in late summer only.

Grapta—Unusually common; the elms in and around the city being fairly covered with larvae, except *progne* and *comma.*

Vanessa and *Euptoieta* scarce.

Junonia coenia—Absent altogether. Not a single specimen seen by any member of the Club.

Basilarchia astyanax—Normally common.

Basilarchia disippus—Very scarce, showing its larva to be possibly more sensitive to sudden extremes of temperature than that of the preceding species.

Apatura clyton—This species outnumbered *Apatura celtis;* it is usually by far the reverse.

Anaea andria—Mr. Hermann Schwarz found this insect very common at De Soto, Mo., on Oct. 12 to 17, 1910, but mostly males. In the near vicinity of St. Louis the appearance of both sexes was normal.

Coenonympha eurytris—This species, which usually disappears in July, was yet very much in evidence in late September.

Satyrus alope—Numerous specimens were taken by the members of the Club at West Kimmswick on their field day, July 17th.

Thecla—Very scarce; *Thecla titus* was captured at West Kimmswick by Mr. J. Nelle on the same date.

Chrysophanus—Very scarce, *thoe* as well as *hypophleas.*

Pierinae—Fairly scarce around St. Louis. Mr. Hermann Schwarz, however, found the following species unusually common near De Soto: *Colias philodice, eurytheme, Zerene coesonia* and var. *rosea; Eurema nicippe* and *euterpe.*

Hesperidae: normal.

New species taken—*Pamphila bellus* and *Thanaos naevius.*

HETEROCERA.

The following species were unusually common:

Hemaris thysbe and *diffinis*—This seems to indicate that their eggs withstood the intense cold of late April.

Ampelophaga choerilus—Plentiful at Creve Cœur, Mo. Usually scarce.

Smerinthus geminatus, Marumba modesta, Paonias myops and *excaecatus, Cressonia juglandis* in wide variations, *Actias luna.*

Callosamia promethea—This species seems to have had two distinct generations, one pupating in July and the other in October. It was extremely common, 1745 cocoons being taken by the writer on the hills near Creve Cœur Lake. Two hundred was considered a good harvest so far.

Citheronia regalis—Many females were caught by the writer at lights in the country and no males, while Mr. Hosenfeldt captured only males at light in the city. From the above females 432 fertile eggs were obtained and larvae raised.

Adelocephala bicolor and *bisecta*—Of these a fine series was obtained by Mr. Geo. Hosenfeldt.

Other species very plentiful—*Euthysanotia grata* and *unio Phoeocima lunifera, Homoptera lunata* and *edusa.*

New species recorded—*Pygarctia spraguei, Schinia lynx* and *jagarina, Choephora fungorum, Lagoa crispata* at West Kimmswick and the little day-flying *Rheumaptera hastata.*

The collecting of Catocalae was remarkable for the sharp contrast between good and unproductive days. On July 4th Mr. F. Malkmus found almost every tree trunk occupied by them in a grove that had been given up as deserted by the other collectors after numerous fruitless expeditions.

Amongst the most remarkable captures of last summer, the following are foremost:

Catocala lachrymosa var. *ulalume* Strecker, one male taken at Meramec Highlands on the trunk of a white oak, Aug. 25th.

C. lachrymosa var. *zelica* French, one female at the same locality, Aug. 20th.

C. parta Guenée, one male, same locality, July 25th. This is the most southern point at which this species was taken.

C. serena Hy. Edwards, one male, on black oak, same locality, July 25th.

These captures all stand to the credit of Mr. Ernest Schwarz.

C. viduata Grote. Four specimens were taken by Mr. Hermann Schwarz near Columbia, Ill., about fifteen miles from St. Louis, Aug. 10th.

Certain species of Sphingidae seem almost threatened with annihilation, through the unusual activity of parasites of the Ichneumon type. *Dolba hylaeus* larvae showed a percentage of 95 parasitized, while *Ceratomia amyntor* and *undulosa* caterpillars were all lost. Even *Citheronia regalis* and some of the woolly bears which are usually immune from the attacks of these parasites, were attacked by them this summer.

SO-CALLED CARRION-FEEDING COLEOPTERA OFTEN NOT CARRION-FEEDERS.—Observations reported by Mr. C. F. Selous, who watched the behavior of insects attracted by small carcases (rat, mole, young rabbit), lead him to think that species of *Aleochara, Creophilus, Leistotrophus, Silpha, Hister* and *Saprinus* feed upon the Dipterous larvae to be found in the decaying bodies and not on the decaying substance itself. He is not convinced that even *Necrophorus* is a true carrion-feeder, but thinks it possible that it feeds on "smaller Coleoptera as well as, or instead of, the fly larvae," nor does he think that "the burying of the carcase is due only to the *Necrophori* or that it is a purposive act." He suggests that its sinking into the ground is an accompaniment of the processes of decay and of the action of deleterious juices on the vegetation which chances to lie beneath the cadaver. Notes on the manner in which Coleoptera approach the dead animals are included, and a suggestion is made as to the importance of the feeding habits of these beetles in the destruction of Diptera conveying human diseases. (Ent. Mo. Mag., April, 1911).

ENTOMOLOGICAL NEWS.

[The Conductors of ENTOMOLOGICAL NEWS solicit and will thankfully receive items of news likely to interest its readers from any source. The author's name will be given in each case, for the information of cataloguers and bibliographers.]

TO CONTRIBUTORS.—All contributions will be considered and passed upon at our earliest convenience, and, as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, four weeks before date of issue. This should be remembered in sending special or important matter for a certain issue. Twenty-five "extras," without change in form and without covers, will be given free, when they are wanted; if more than twenty-five copies are desired, this should be stated on the MS. The receipt of all papers will be acknowledged. Proof will be sent to authors for correction only when specially requested.—Ed.

PHILADELPHIA, PA., JULY, 1911.

The author of an article recently contributed to the NEWS asks, "Could you not write a short editorial along the line of indiscriminate naming of new species from one or two specimens?" The topic is an old one and probably most of us who have perpetrated descriptions of *species novae* have erred "along the line" complained of by our correspondent. It may, or it may not, be true that more of such misjudgments were made in the days when collecting in the United States west of the One Hundredth Meridian was attended with much risk to the collector's scalp, and as a result of that risk long series of varying specimens were the exception and not the rule. The temptation to make known what appears to be undescribed has always been strong in the possessor of an apparent rarity and, on the other hand, not a few entomologists have regretted the excess of caution whereby they or their friends have lost the opportunity of being first in the field or in the printed page. Here as elsewhere there is a golden mean to be sought, the over-timid to be encouraged to press onward, the hasty to be checked until it is certain that he has made himself acquainted with the many sources of information before he commits himself and the journal to the announcement of a novelty.

We would remind our readers of the statement printed on the second page of the cover of each month's issue of the NEWS that *no numbers are published for August and September.*

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

THE RECENT CLASSIFICATIONS OF COLEOPTERA of Lameere, Ganglbauer and Kolbe, not hitherto discussed in English, are described in articles by Mr. C. J. Gahan, beginning in the *Entomologist* for April, 1911.

CHIRONOMID LARVAE PARASITIC WITHIN SNAILS.—Mr. K. H. Barnard reports, in *The Entomologists' Monthly Magazine* for March and April, 1911, the finding of living, mottled green and red Chironomid larvae in the mantel and mantel cavity of the snail, *Limnaea peregra*, in the fountains in Trafalgar Square, London. He observed a larva entering the pulmonary orifice of the snail. The presence of these parasites "inconveniences the host," resulting in some cases at least in its death, but apparently not producing dwarfing or deformity.

WE regret to learn that "Arcadia" at Sound Beach, Connecticut, the home and laboratory of Mr. Edward F. Bigelow, President of the Agassiz Association and Editor of *The Guide to Nature*, must be vacated and that Mr. Bigelow is obliged to seek quarters elsewhere. The Agassiz Association, under the presidency of Mr. Harlan H. Ballard, did a great work in interesting the young people of America in natural history in our own youth and Mr. Bigelow deserves aid and encouragement in his endeavors to continue his predecessor's beneficial labors. A fund, amounting on June 8, 1911, to $826.75, has been started for a new Arcadia, and we wish it and our contemporary *Guide* every success.

PLUSIOTIS BEYERI SKINNER.—This elegant beetle, described by Dr. Skinner from the Huachuca mountains of Cochise County, Arizona, appears to be abundant in northern Sonora, Mexico. Mr. J. R. Haskins, of Los Angeles, has recently given me a small series from Cananea, where he reports it to be common about arc lights. His specimens were taken July 18, 19, 1910, near the Chivatena (Sheep Herder) Mine, at an elevation of about 5,000 feet. He also took a few *lecontei* and *gloriosa*. Mr. Haskins is not a coleopterist, and collected the specimens only on account of their beauty. No doubt a coleopterological collector visiting the lights there at the proper season could reap a rich harvest. I took a few *beyeri* in the Huachucas this last season, one the first day of June and others up to July 26, but they were few and far between. There seems to be no established rule as to obtaining them. I have taken examples at light and others flying at mid-day in the hot sunshine. Not a few deceased but mutilated remains were

found. The period of *life* in *beyeri* as an adult, is evidently rather brief. Mr. C. R. Biedermann, Entom. News, vol. 18, p. 7, '07, has published an interesting account of his experiences with *beyeri* in the Huachucas.—KARL R. COOLIDGE.

AN INTERNATIONAL ANTI-LOCUST COMMISSION.—"J. Lawrence-Hamilton, M. R. C. S., of 30 Sussex Square, Brighton, England, sends us a reprint from the London *Financial News* of February 13, 1911, in which he urges the organization of an International Anti-Locust Commission. He points out what an enormous amount of capital is invested in Argentina and in the development of its agriculture, and then shows the immeasureable damage done by the locusts, thereby presenting a strong argument for a study of conditions which would result in the practical handling of the locust problem. He refers to the wonderful results which have come from the efforts to suppress the mosquito, and claims that similar success can meet a fight against the locusts."—*Bulletin of the Pan-American Union* (Washington), March, 1911, p. 401.

THE GREEN TREE ANTS OF NORTH QUEENSLAND.—Dr. R. A. O'Brien, describing some of the habits of these insects at the meeting of the Zoological Society of London, of May 3, 1910, said: The Green Tree-Ant is found in the open forest country or "bush" on the edge of the thick jungle or "scrub," along the sea-coast of Northern Queensland. It is a very active pugnacious insect, from half to three-quarters of an inch long, living wholly or almost wholly in trees. The nest is built on the bough of a tree and consists of a very large number of leaves, generally fresh and green. These are matted together with a gelatinous material exuded from larvae which the worker ants bring up to the site of the projected nest, where other ants hold the edges of adjacent leaves together. This process is repeated until the bundle may be several feet in diameter.

The bridge formed of the bodies of the ants shown on the [lantern slide] screen was re-formed, when broken, by festoons of ants hanging from the upper leaf until some of them. dropping from the festoon, joined momentarily with others on the top of the leaf and twigs below. Others quickly joined in strengthening the bridge until it was about four ants' width and eight ants' length. Then the one leaf was seen to be dragged slowly nearer the other, decreasing the bridge to five ants' length, and at this stage it remained for several days, when I left the place. The ants "on duty" in the bridge over which other ants ran to and fro, carrying their "game" were watched carefully for eighty minutes, and none in the center of the bridge was relieved during that time—a rather remarkable feat of strength and endurance.

Entomological Literature.

COMPILED BY E. T. CRESSON, JR., AND J. A. G. REHN.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), excluding Arachnida and Myriapoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species, will be recorded. The numbers in **Heavy-Faced Type** refer to the journals, as numbered in the following list, in which the papers are published, and are all dated the current year unless otherwise noted. This (*) following a record, denotes that the paper in question contains description of a new North American form.

For record of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington.

4—The Canadian Entomologist. **5**—Psyche, Cambridge, Mass. **7**—U. S. Department of Agriculture, Bureau of Entomology. **8**—The Entomologist's Monthly Magazine, London. **9**—The Entomologist, London. **16**—Bulletin, Societe Nationale d'Acclimation de France, Paris. **18**—Ottawa Naturalist. **22**—Zoologischer Anzeiger, Leipzig. **24**—Berliner Entomologische Zeitschrift. **25**—Bolletino, Musei di Zoologia ed Anatomia Comparata d. R. Universita di Torino. **35**—Annales, Societe Entomologique de Belgique. **36**—Transactions, Entomological Society of London. **38**—Wiener Entomologische Zeitung. **40**—Societas Entomologica, Zurich. **44**—Verhandlungen, K. k. zoologisch-botanischen Gesellschaft in Wien. **50**—Proceedings, U. S. National Museum. **56**—Mittheilungen, Schweizerischen entomologischen Gesellschaft. Schaffhausen. **60**—Anales, Museo Nacional de Buenos Aires. **65**—La Feuille des Jeunes Naturalistes, Paris. **73**—Archives, Zoologie Experimentale et Generale, Paris. **84**—Entomologische Rundschau. **86**—Annales, Societe Entomologique de France, Paris. **89**—Zoologische Jahrbucher, Jena. **92**—Zeitschrift fur wissenschaftliche Insekten-biologie. **97**—Zeitschrift fur wissenschaftliche Zoologie, Leipzig. **119**—Archiv fur Naturgeschichte, Berlin. **143**—Ohio Naturalist. **153**—Bulletin, American Museum of Natural History. New York. **166**—Internationale Entomologische Zeitschrift, Guben. **175**—Aus der Natur, Berlin. **176**—Archiv fur entwicklungsmechanik der Organismen, Leipzig. **189**—Pomona Journal of Entomology, Claremont, Cala. **191**—Natur, Munchen. **195**—Bulletin, Museum of Comparative Zoology at Harvard College, Cambridge, Mass. **197**—Proceedings, Royal Society, Biological Sciences, Series B., London. **198**—Biological Bulletin, Marine Biological Laboratory, Woods Hole, Mass. **201**—Memoires, Societe Entomologique de Belgique. **216**—Entomologische Zeit-

schrift, Stuttgart. **227**—Memorias, Instituto Oswaldo Cruz, Rio de Janeiro. **239**—Annales, Biologie Lacustre, Brussels. **243**—Yearbook, Department of Agriculture, Washington, D. C. **266**—Sitzungsberichte, d. k. B. Gesellschaft der Wissenschaften. Mathematische-naturwissenschaftliche Classe, Prag. **274**—Archiv fur Zellforschung, herausgeben von Dr. R. Goldschmidt, Leipzig. **303**—Entomologiske Meddelelser, udgivne af Entomologisk Forening, Copenhagen. **305**—Deutsche Entomologische National-Bibliothek, Berlin. **313**—Bulletin of Entomological Research, London. **333**—La Revue Scientifique du Limousin, Limoges. **334**—Proceedings of the American Academy of Arts and Sciences, Boston. **335**—Smithsonian Miscellaneous Collections. **337**—Meddelelser om Gronland. Denmark Ekspeditionen til Gronlands Nordostkyst, 1906-08, Copenhagen.

GENERAL SUBJECT. Brocher, F.—Observations biologiques sur quelques insects aquatiques, **239,** iv, 367-379. **Butler, A. G.**—A few words respecting insects and their natural enemies, **36,** 1910, 151-154. **Clement, A.**—Les insectes du cresson, **16,** 1910, 158-159. **Cockerell, T. D. A.**—Some insects from Steamboat Springs, Colo. III, **4,** 1911, 208. Fossil insects from Florissant, Colorado, **153,** xxx, 71-82 (*). **Deegener, Dr.**—Zur beurteilung der insektenpuppe, **22,** xxxvii, 495-505. **Fejervary, J.**—Note a propos d'une simplification dans la nomenclature, **92,** vii, 425-427. **Gulick, A.**—Ueber die geschlechtschromosomen bei einigen Nematoden nebst bemerkungen uber die bedeutung dieser chromosomen, **274,** vi, 339-382. **Hancock, J. L.**—Nature sketches in temperate America. A series of sketches and a popular account of insects, birds and plants . . .451 pp., Chicago, A. C. McClurg & Co., 1911. **Hollande, A. Ch.**—Etude histologique comparee du sang des insectes a hemorrhee et des insects san hemorrhee, **73,** xlvi, 283-323. **Johansen, F.**—General remarks on the life of insects and arachnids in Northern Greenland, **337,** xliii, 35-54. **Morgan, A. C.**—Insect enemies of tobacco in the U. S., **243,** 1910, 281-296. **Muller, R.**—Die uebertragung von krankheiten durch insekten (cont.), **216,** xxv, 46-47. **Nielsen, I. C.**—A catalogue of the insects of Northeast Greenland with descriptions of some larvae, **337,** xliii, 55-68 (*). **Nussac, L. de**—Les entomologistes Limousine. Maurice Noualhier, **333,** 1911, 37-65. **Slevogt, B.**—Welche bedeutung hat der geruchssinn fur insekten, **40,** xxvi, 13-14. **Wolff, P.**—Der insektenbeobachter. Die farben bei Schmetterlingen, **191,** 1911, 114-116. **Zweigelt, F.**—Das sammeln in der natur und seine wissenschaftliche und psychologische bedeutung, **84,** xxviii, 77-79, 87.

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THE HOUSE FLY—Disease Carrier.—An account of its Dangerous Activities and of The Means of Destroying It. By L. O. Howard, Ph.D., New York. Frederick Stokes Company, Publishers. Price $1.60.

In the last few years this insect has received a large amount of attention from many sources. A large number of articles have appeared in relation to it in scientific, medical and popular magazines and in the newspapers. The house fly has been found guilty of many offences and the general public has become interested in it. Dr.

Howard has taken 312 pages to tell the story of the species and its iniquities and has done the work admirably. There is a frontispiece showing *Musca domestica* in all its glory, and forty text-cuts. The scope of the work is shown by the main headings of the various chapters: Zoological Position; Life History and Habits; Natural Enemies; Carriage of Diseases by Flies (typhoid fever, cholera, dysentery, diarrhea, tuberculosis, anthrax, yaws, ophthalmia, diphtheria, smallpox, plague, tropical sore and parasitic worms); Remedies and Preventive Measures; Other Flies Frequenting Houses; Bibliography and five Appendices as follows: Flies Frequenting Human Dejecta and those found in Kitchens; On some Flies Reared from Cow Manure; Regulations of the Health Department of the District of Columbia Relating to House Flies; Orders of the Commissioners of Columbia; Directions for Building a Sanitary Privy; A Simple Apparatus for Use in the Safe Disposal of Night-Soil.

Nothing of importance appears to have been overlooked and the volume covers the subject in all its phases carefully and accurately. —H. S.

NATURE SKETCHES IN TEMPERATE AMERICA. By Joseph Lane Hancock, M.D., F.E.S. With 215 original illustrations in the text and 12 colored plates by the author. Chicago. A. C. McClurg & Co., 1911. 12 mo., pp. xviii, 451. $2.75.

This book is divided into eight sections: I. Evolution and Natural Selection (Introduction); II. Adaptations in Animals and Plants, with examples; III. Protective Resemblance, with examples; IV. Mimicry, with examples; V. Warning Colors, Terrifying Markings and other Protective Devices, with examples; VI. Animal Behavior, with examples; VII. General Observations and Sketches Afield, with examples; VIII. Ecology—Interpretation of Environment as exemplified in the Orthoptera.

The method of treatment is set forth in the preface: "The work has been divided into sections mainly through an endeavor to show the philosophy of evolution. First, I have brought forward sketches showing special adaptations and animal behavior. Secondly, by walks afield I have attempted in a simple manner to show the application of evolution to the objects viewed. In the table of contents will be found other subdivisions of the subject. When not otherwise stated, these word sketches have been drawn from my diary notes covering many years, made at Lakeside, Berrien County, Michigan."

On a frame-work of copious quotations, summaries and abstracts of the works of the great and well known evolutionary biologists, Dr. Hancock has hung his own observations as illustrations. He

treats many of the most fundamental and difficult problems in organic nature and it is too much to expect that his views of the significance of the structures and habits which he describes will satisfy all his readers. The book will no doubt fulfill one of its author's aims in suggesting to field naturalists and nature lovers some of the deeper meanings of the phenomena all around us.

More consideration is confessedly given to the insects than to other groups of animals. Hymenoptera, Lepidoptera, Diptera, Orthoptera, Coleoptera, Hemiptera, Neuroptera, Odonata and Spiders all figure in these interesting pages. As is quite appropriate to the author's well-known position as a specialist, the Orthoptera receive a larger share of attention than any other insects, the eighth section comprising 118 pages and including a list of Classified Habitats of Various Species of Orthoptera based on their egg-laying sites, to show their relation to plant formations in general (11 pp.), and four pages of Definitions of common environmental complexes and the various habitats of plants grouped under formations. There is an apparently full index of 17 pages.

The plates are three-color reproductions from colored photographs, most of them presenting flower and insect groups.—P. P. C.

Prof. Vernon L. Kellogg's The Animals and Man, An Elementary Textbook of Zoology and Human Physiology (New York, Henry Holt & Co., 1911, 16 mo.) devotes 70 pages to insects out of a total of 495, which is, perhaps, an instance of admirable self-control on the part of its distinguished entomological author. From a pedagogical point of view it may be interesting to note how those 70 pages are distributed, in the different parts of the book: External structure of the grasshopper 3, Mosquitos and caterpillars 12, Insects in general 4, Fighting insect pests 11, Mutual Aid and Communal Life 15, Colors and Markings of Animals 12, Insects and flowers 10, Collecting and Preserving 3.—P. P. C.

Doings of Societies.

AMERICAN ENTOMOLOGICAL SOCIETY.

Meeting of April 27th, 1911. Dr. Philip P. Calvert, President, in the chair, fifteen persons present.

Dr. Skinner made some remarks on the classification of the Hesperidae and said he believed in using any available characters for keys, irrespective of natural affinities. Mr. Rehn

said he approved of using all available characters for such a purpose.

Dr. Calvert exhibited a small collection of Odonata from Pennsylvania, which Mr. E. Daecke had submitted for identification. The most interesting specimen among them was a male *Aeshna mutata* Hagen (as defined by Messrs. Williamson, 1908, and E. M. Walker, 1908), labeled "W. Fairview, Pa., VII, 4, 10, coll. by Kirk." This is the first record of the species for Pennsylvania, previously known localities being Massachusetts and Indiana.

Mr. Rehn exhibited representatives of a number of bizarre species of Acrydinae (Tettiginae of most authors), eighteen genera being shown. A number of the species in the series were new forms from Ruwenzori and the Virunga volcanoes, Central Africa. Particular attention was called to the superficial resemblance of species of *Choryphyllum*, *Hypsaeus*, *Xerophyllum* and *Trypophyllum* to the species of Membracidae.

Mr. Cresson exhibited a very large Acanthomerid fly taken by Prof. Stewardson Brown in Venezuela. It lives in the forest.

Dr. Calvert read an extract from an article in the *Entomologist's Monthly Magazine* on Carrion-feeding Coleoptera, in which the author maintained that the beetles visited the carrion in search of dipterous larvae. Mr. Wenzel said the length of time the carcass has been dead largely determined the genera and species of Coleoptera in attendance. Mr. Laurent said *Necrophorus* came first and *Silpha* afterward.

Dr. Calvert also called attention to articles by Mr. C. J. Gahan in *The Entomologist* on recent classifications of the Coleoptera, and to one in the *Entomologist's Monthly Magazine*, in which it was stated that certain Chironomid larvae were parasitic in snails.

It was decided to hold the meetings in June and December on the second Monday instead of the fourth Thursday.

HENRY SKINNER, *Secretary.*

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Wanted For Cash—Can. Ent., Vol. xxx, xxxi; Riley's First Missouri Report and other papers on North American entomology not in my library. Send lists.—W. Beutenmuller, Am. Mus. Nat. Hist., New York, N. Y.

Wanted—Bibliography of Economic Entomology, Part 6; Div. of Entomology, New Series, Bull. No. 15; Technical Bulletin 1; Old Series, Bulls. 1, 2, 4, 5, 8, 9, 10, 11, 12, 13, 18, 20, 26, 28, 30 and 33. Will pay cash or exchange.—Charles W. Hooker, Bureau of Ent., Washington, D. C.

Wanted—Correspondence with collectors of Lepidoptera desiring to take a trip of from 1 to 2 years in Malay Archipelago, or following the course of Amazon River in Brazil.—A. F. Porter, Decorah, Iowa.

Wanted—Living eggs of tent caterpillars (*Malacosoma* spp.) from the western United States. Kindly indicate food plant. Exchange or cash.—C. R. Crosby, 43 East Ave., Ithaca, N. Y.

Wanted No. American Buprestidae and Cicindelae. Will name and return Coleoptera in certain families for specimens of the above. Duplicates for exchange.—C. A. Frost, 40 Grant St., So. Framingham, Mass.

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Wanted for cash or good exchange, live fertilized females or fertile ova of *Versicolor*, *Pandorus*, *Achemon* and *Bicolor*; can supply fertile ova of hybrid *Actias selene*, *luna*, *Antherea mylitta* and others.—James L. Mitchell, 212 Indiana Trust Building, Indianapolis, Indiana.

Wanted addresses of reliable collectors or dealers in Florida, Texas, New Mexico and California for the exchange or purchase of Lepidoptera.—Carlo Zeimet, 170 William St., New York.

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Information wanted as to some efficient method of completely removing vestiture from the legs of Lepidoptera without injury to spines or spurs.—F. H. Wolley Dod, Millarsville, Alta, Canada.

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Identified specimens of Philippine Lepidoptera to sell at ½ dealers rates. 100 species, including 10 *Papilios*, *Hestia leuconoe*, *Ornithoptera nephereus*, for $25. A few to exch.—O. B. Burrell, Lamao, Bataan, P. I.

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